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(54) Title: **IMPROVED CFM MODE SYSTEM**

(57) Abstract: A method for producing at least one ciphertext block from at least one plaintext block using a block cipher E and a key K , the method including receiving n plaintext blocks, wherein n is an integer greater than 0, setting Q_0 equal to an initial value, and for each plaintext block of the n plaintext blocks: computing $Q_i = E_K(Q_{i-1}) \text{ XOR } P_i$; and computing $C_i = M(P_i, Q_i)$, thereby producing n ciphertext blocks, wherein $0 < i \leq n$, and P_i denotes an i -th plaintext block of the n plaintext blocks, and C_i denotes an i -th ciphertext block of the n ciphertext blocks, and M is a selector function which, for each bit C_{ij} of block C_i , selects a first argument of M if bit P_{ij} is not to be encrypted, and selects a second argument of M if bit P_{ij} is to be encrypted. Related apparatus and methods are also provided.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/IL04/00144

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : H04L 1/100, 9/100; G06F 11/30

US CL : 380/28,29,37,265; 713/200

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 380/28,29,37,265; 713/200

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6,578,150 B2 (LUYSTER) 10 June 2003 (10.06.2003)	1-30
A	WO 99/66669 A2 (RIVEST et al.) 23 December 1999 (23.12.1999)	1-30
A	EP 0 996 250 A2 (PATEL et al) 26 April 2000 (26.04.2000)	1-30
A	US 6,249,582 B1 (GILLEY) 19 June 2001 (19.06.2001)	1-30
A	US 4,731,843 A (HOLMQUIST) 15 March 1988 (15.03.1988)	1-30
A	US 4,229,818 A (MATYAS et al) 21 October 1980 (21.10.1980)	1-30

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☐ See patent family annex.

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